MARSAND, INC.
Matthew A. Sanderford, Jr., P.E.

ENGINEERING STATEMENT

In support of an

Application for Construction Permit

For Digital Channel 46

KNCT Belton, TX

150 kW ERP 392 m HAAT

PURPOSE

MARSAND, INC. has been retained by Central Texas College (the "Licensee") Licensee of KNCT analog Channel 46 of Belton, TX (the "Station"), to prepare this engineering statement in support of this instant Application for Construction Permit (CP) for post-transition digital service on Channel 46. The Licensee currently has a CP for the paired transitional digital Channel 38 (BPEDT-20070918ABT). The Federal Communications Commission (the "Commission") established Channel 46 for the station's post-transition operation in "Appendix B" allotment (Seventh Report and Order in MB Docket No. 87-258). Under this instant proposal, the Licensee seeks authorization for post-transitional digital operation on Channel 46.

DISCUSSION

The Licensee proposes to use the existing, top mount analog Channel 46 antenna. The antenna manufacturer's specifications can be found in the Appendix. The Licensee also proposes to modify its existing digital transmitter and RF filter for digital service on Channel 46. The proposed facility is located at the existing analog site. Since the predicted 41 dBu F(50,90) contour of the proposed digital facilities would fall outside of the predicted DTV F(50,90) service grade contour of the allotted digital facility specified in Appendix B (see **Figure 1**), the Licensee requests a waiver of the DTV Filing Freeze as permitted in Paragraph 151 of the Third Periodic Review Report and Order. The predicted contour of the proposed

digital facility does not extend more than 5 miles in any azimuth more than the predicted contour of the allotted facility in Appendix B. The tabulated distance to contours is included in the Appendix and labeled "Contour Comparison – Proposed vs. Appendix B". Furthermore, an interference study using the TV Process by Techware (a software program which is familiar to the Commission that is written in Fortran and run on a Sun Microsystems workstation and employs the methods outlined in the OET 69 Bulletin), confirms that the proposed facility would not exceed 0.5% new interference to any other station listed in Appendix B. The study results are listed in the Appendix. A summary of the interference study is included below in **Table 1**.

Stations Potentially Affected by Proposal	Interference	
	Existing	New
KDTX-TV CH45 Dallas, TX	(see note 2)	
KTAQ CH46 Greenville, TX	0.0 %	0.06 %

Notes:
1. Proposed station is beyond the site to nearest cell.
2. Proposal causes no interference

Table 1

The calculated F(50,90) 48 dBu contour would encompass the principal community Belton, TX, entirely as shown in **Figure 1**. Also shown in **Figure 1** is the F(50,90) 41 dBu contour.

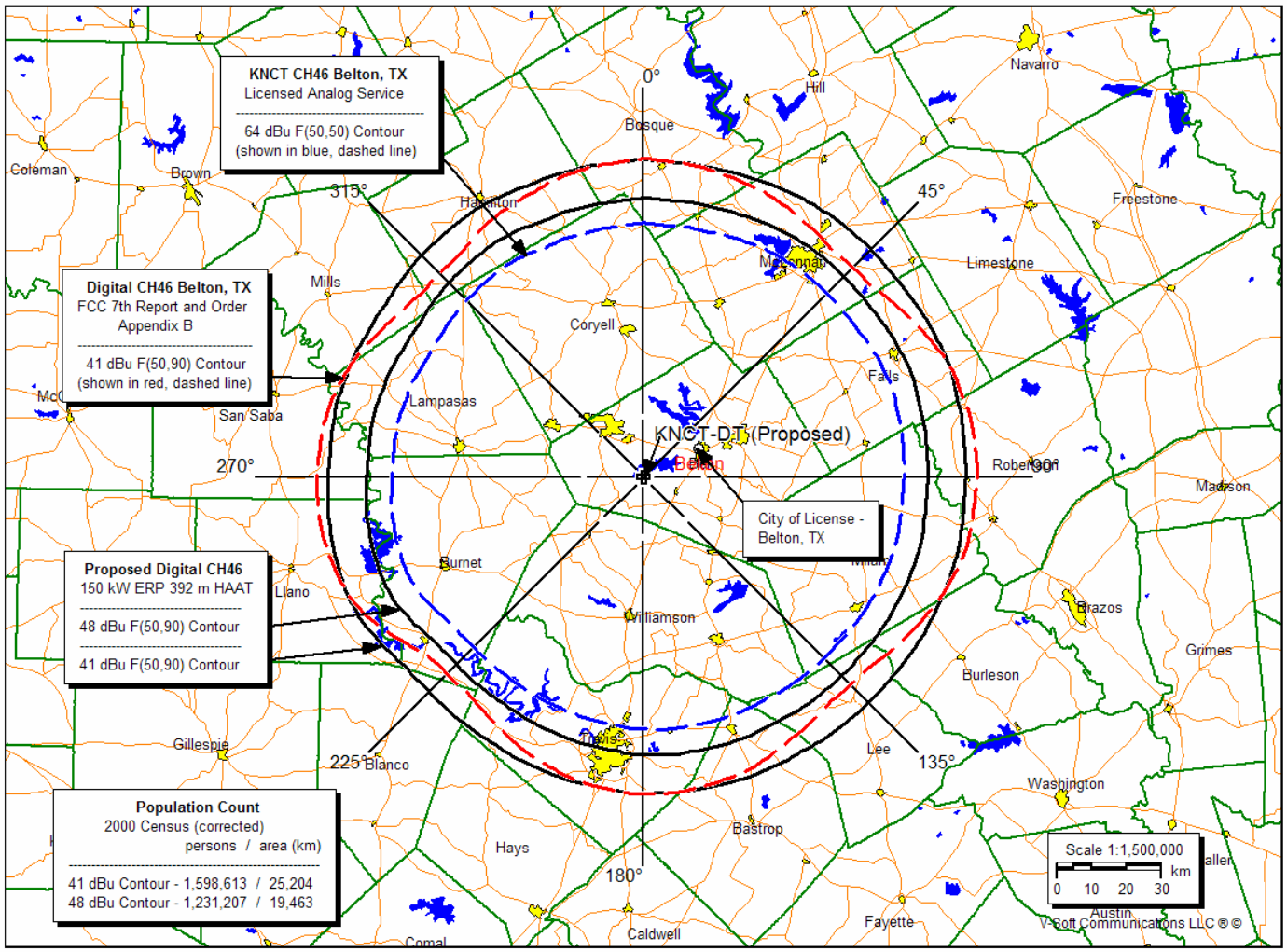


Figure 1

A population study under the 41 dBu contour predicts service to 1,598,613 people which is more than 100% of the population specified in the new DTV Table Appendix B. These figures are derived using the corrected 2000 Census.

The proposal is clear of any FCC monitoring stations, quiet zones, and Table Mountain. It is also further than 3.2 km from the nearest AM station.

RF Radiation Exposure Statement

The requirements or Section 73.1307(b) of the FCC Rules regarding human exposure to radio frequency (RF) energy are met under this instant application for the post-transition digital television facility proposed herein.

The proposed KNCT-DT facility utilizes the existing analog side mount antenna located on an existing, multi-use tower structure (ASR 1058073) located near Youngsport, TX. The site is restricted access. The station agrees to maintain full compliance with the safety precautions to workers on the tower (controlled) and the general public (uncontrolled) by reducing or removing radiated power during the time of construction or maintenance on or near the antenna. The station also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from Radiofrequency Electromagnetic exposure in excess of FCC guidelines.

Table 2 shows the calculations of RF level 2m above ground level for the General Public / Uncontrolled (GP/U) would not exceed 5% of the Maximum Permissible Exposure (MPE) limit. The calculations are shown in the Appendix. The proposed facility is therefore a negligible contributor to the RF environment at all ground level locations and is excluded from the routine environmental evaluation pursuant to Section 1.1307(b) of the FCC Rules.

Call Letters	Channel / Frequency	Distance from RCAGL to 2 m AGL	Worst Case Downward Radiation (Relative Field)	Calculated Power Density (uW/cm^2)	GP/U MPE (uW/cm^2)	Percentage of GP/U MPE
KNCT-DT	CH46 662-668 MHz	338.4 m	0.20	1.75	400	0.39 %

Table 2

CONCLUSION

It is respectfully requested that the Commission grant this request for CP for the proposed transmission facility as indicated in the Tech Box of the accompanying Instant Application Form 301.

DECLARATION

Matthew A. Sanderford, Jr., P.E., declares and states that he is a graduate Electrical Engineer with a Bachelor of Science Degree in Electrical Engineering from the University of Texas at El Paso, a Licensed Professional Engineer in the State of Texas, and his qualifications are known to the Federal Communications Commission, and that he is President of MARSAND, INC., a Registered Professional Engineering firm in the State of Texas, and that firm has been retained by the Licensee, to perform the engineering support as contained in this report.

All facts contained herein are true of his own knowledge except where stated to be on information or belief provided by the Licensee, and as to those facts, he believes them to be true.

_____

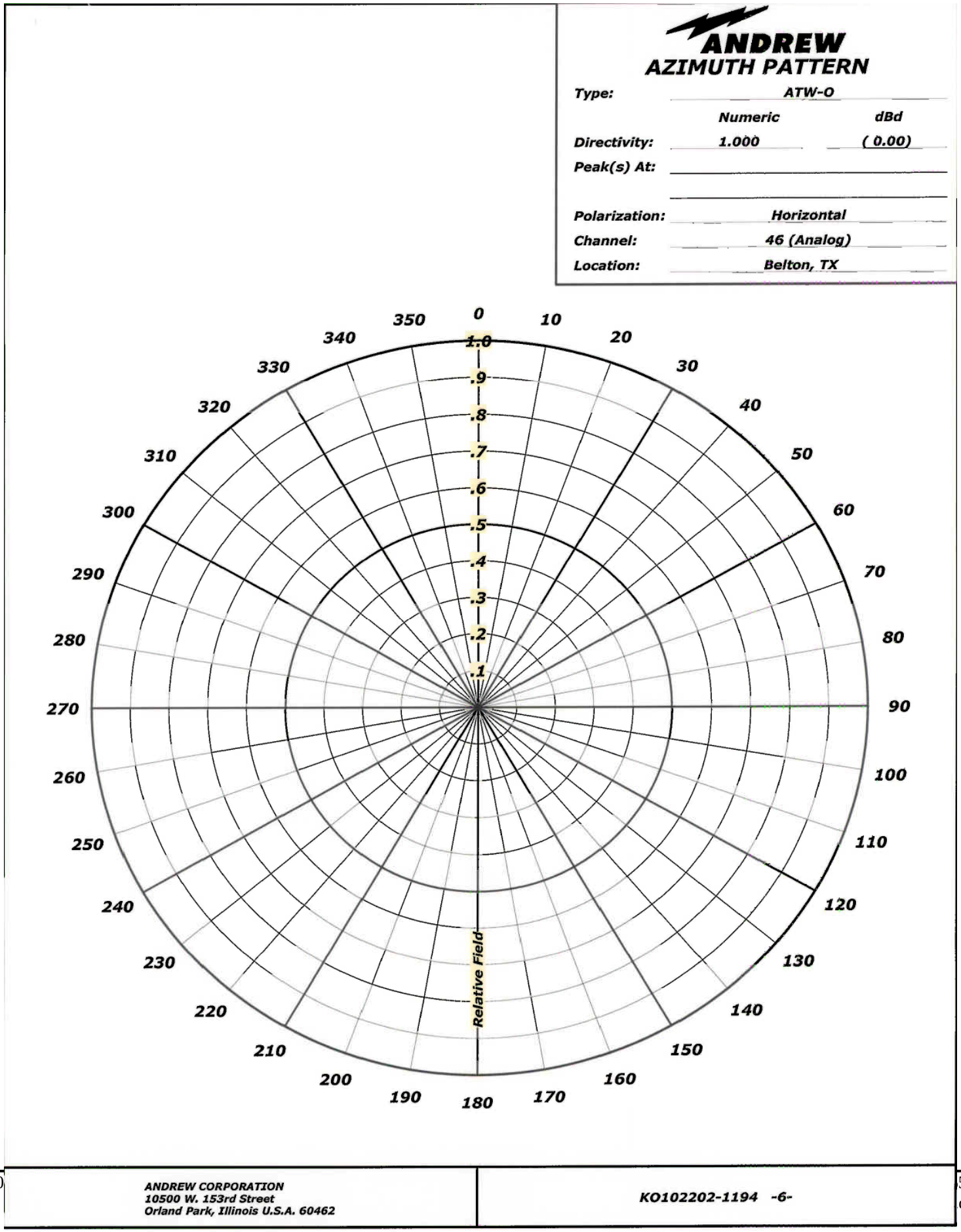
I declare under penalty of perjury that the foregoing is true and correct.

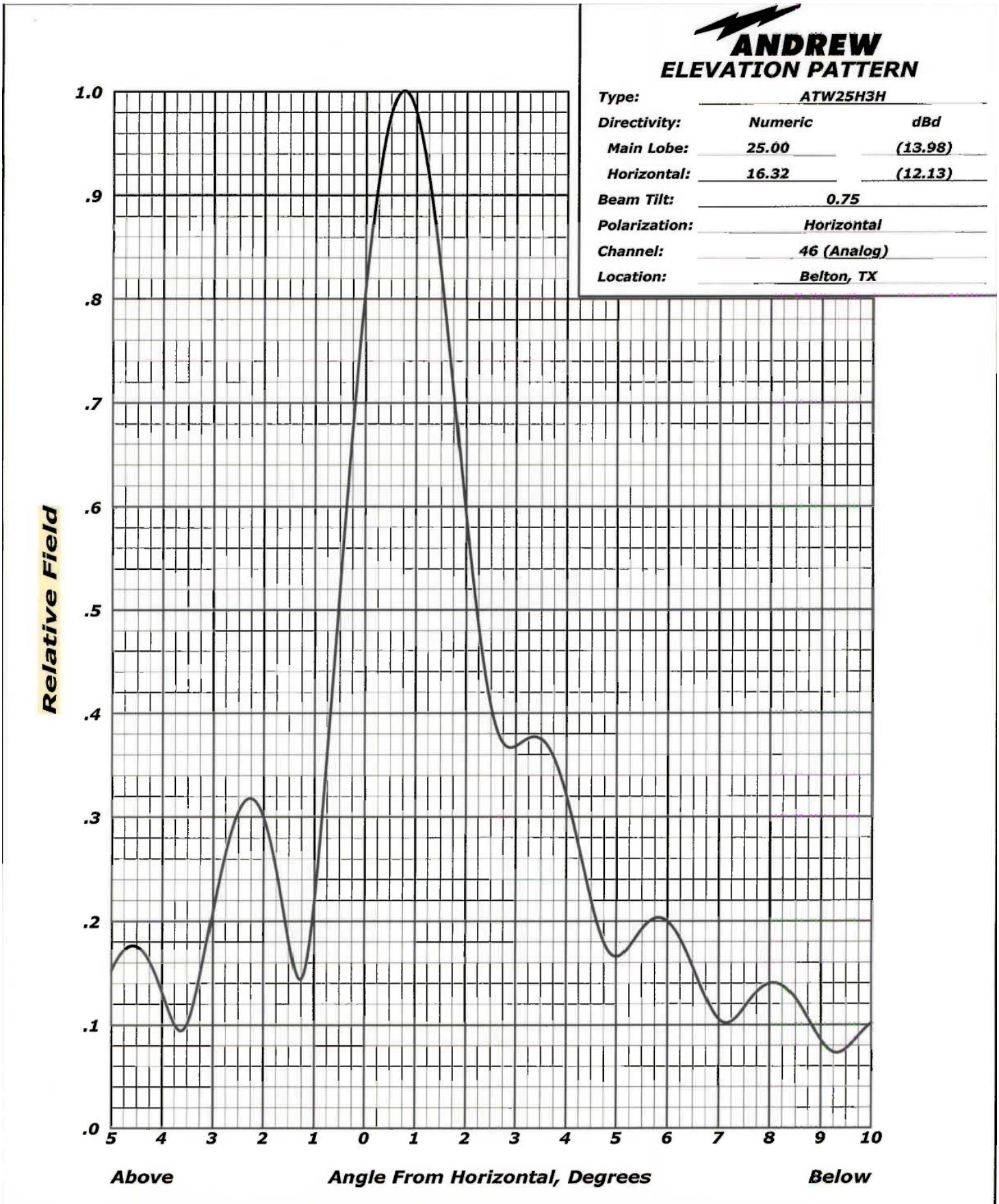
_____

Matthew A. Sanderford, Jr., P.E.
President - MARSAND, INC.

Executed this 16th day of June, 2008
State of Texas

Appendix


ANDREW
AZIMUTH PATTERN
Type: ATW-O
Numeric dBd
Directivity: 1.000 (0.00)
Peak(s) At:
Polarization: Horizontal
Channel: 46 (Analog)
Location: Belton, TX
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
310
320
330
340
350
1.0
.9
.8
.7
.6
.5
.4
.3
.2
.1
Relative Field
ANDREW CORPORATION
10500 W. 153rd Street
Orland Park, Illinois U.S.A. 60462
KO102202-1194 -6-


ANDREW
ELEVATION PATTERN
Type: ATW25H3H
Directivity: Numeric dBd
Main Lobe: 25.00 (13.98)
Horizontal: 16.32 (12.13)
Beam Tilt: 0.75
Polarization: Horizontal
Channel: 46 (Analog)
Location: Belton, TX
Relative Field
1.0
.9
.8
.7
.6
.5
.4
.3
.2
.1
.0
5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 10
Above
Angle From Horizontal, Degrees
Below
ANDREW CORPORATION
10500 W. 153rd Street
Orland Park, Illinois U.S.A. 60462
KO102202-1194 -7-

ANDREW

TABULATED DATA FOR ELEVATION PATTERN
TYPE : ATW25H3H

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-5 To 10 In 0.25 Increments			10 To 90 In 0.5 Increments								
-5.00	0.152	-16.34	8.75	0.106	-19.51	35.00	0.021	-33.57	62.50	0.039	-28.23
-4.75	0.172	-15.28	9.00	0.085	-21.36	35.50	0.026	-31.65	63.00	0.044	-27.12
-4.50	0.175	-15.12	9.25	0.074	-22.65	36.00	0.036	-28.82	63.50	0.045	-26.85
-4.25	0.161	-15.87	9.50	0.077	-22.27	36.50	0.039	-28.15	64.00	0.043	-27.37
-4.00	0.131	-17.63	9.75	0.090	-20.95	37.00	0.033	-29.67	64.50	0.037	-28.73
-3.75	0.100	-19.96	10.00	0.102	-19.85	37.50	0.023	-32.94	65.00	0.028	-31.06
-3.50	0.101	-19.88	10.50	0.105	-19.61	38.00	0.022	-33.11	65.50	0.019	-34.24
-3.25	0.147	-16.63	11.00	0.078	-22.14	38.50	0.032	-29.93	66.00	0.016	-35.72
-3.00	0.209	-13.58	11.50	0.057	-24.93	39.00	0.038	-28.38	66.50	0.022	-33.04
-2.75	0.266	-11.50	12.00	0.074	-22.56	39.50	0.036	-28.89	67.00	0.031	-30.04
-2.50	0.305	-10.31	12.50	0.088	-21.08	40.00	0.027	-31.39	67.50	0.040	-27.96
-2.25	0.318	-9.95	13.00	0.076	-22.41	40.50	0.020	-34.00	68.00	0.046	-26.69
-2.00	0.300	-10.47	13.50	0.051	-25.85	41.00	0.026	-31.77	68.50	0.050	-26.08
-1.75	0.250	-12.03	14.00	0.054	-25.35	41.50	0.035	-29.12	69.00	0.050	-26.03
-1.50	0.182	-14.82	14.50	0.072	-22.83	42.00	0.038	-28.35	69.50	0.047	-26.52
-1.25	0.145	-16.79	15.00	0.072	-22.87	42.50	0.034	-29.47	70.00	0.042	-27.59
-1.00	0.220	-13.17	15.50	0.052	-25.66	43.00	0.024	-32.37	70.50	0.034	-29.36
-0.75	0.361	-8.85	16.00	0.040	-27.86	43.50	0.019	-34.24	71.00	0.025	-32.06
-0.50	0.519	-5.69	16.50	0.056	-25.03	44.00	0.027	-31.43	71.50	0.016	-36.09
-0.25	0.673	-3.44	17.00	0.066	-23.67	44.50	0.035	-29.04	72.00	0.010	-39.72
0.00	0.808	-1.85	17.50	0.055	-25.12	45.00	0.038	-28.43	72.50	0.015	-36.45
0.25	0.912	-0.80	18.00	0.037	-28.56	45.50	0.033	-29.58	73.00	0.024	-32.38
0.50	0.978	-0.19	18.50	0.041	-27.69	46.00	0.024	-32.41	73.50	0.033	-29.61
0.75	1.001	0.01	19.00	0.056	-25.03	46.50	0.019	-34.53	74.00	0.041	-27.72
1.00	0.980	-0.18	19.50	0.057	-24.96	47.00	0.025	-31.94	74.50	0.048	-26.43
1.25	0.919	-0.73	20.00	0.042	-27.62	47.50	0.034	-29.32	75.00	0.053	-25.58
1.50	0.826	-1.66	20.50	0.031	-30.12	48.00	0.038	-28.34	75.50	0.056	-25.06
1.75	0.712	-2.95	21.00	0.043	-27.25	48.50	0.036	-28.96	76.00	0.057	-24.82
2.00	0.592	-4.56	21.50	0.053	-25.52	49.00	0.028	-31.17	76.50	0.057	-24.83
2.25	0.484	-6.31	22.00	0.047	-26.53	49.50	0.020	-34.12	77.00	0.056	-25.05
2.50	0.407	-7.82	22.50	0.032	-29.84	50.00	0.021	-33.40	77.50	0.053	-25.47
2.75	0.371	-8.61	23.00	0.032	-29.99	50.50	0.030	-30.37	78.00	0.050	-26.09
3.00	0.368	-8.68	23.50	0.045	-26.94	51.00	0.037	-28.54	78.50	0.045	-26.91
3.25	0.376	-8.50	24.00	0.049	-26.14	51.50	0.039	-28.17	79.00	0.040	-27.93
3.50	0.375	-8.52	24.50	0.040	-28.01	52.00	0.035	-29.20	79.50	0.035	-29.17
3.75	0.357	-8.95	25.00	0.027	-31.45	52.50	0.026	-31.65	80.00	0.029	-30.66
4.00	0.321	-9.88	25.50	0.032	-29.84	53.00	0.019	-34.44	80.50	0.024	-32.44
4.25	0.271	-11.32	26.00	0.044	-27.11	53.50	0.022	-33.27	81.00	0.019	-34.61
4.50	0.220	-13.16	26.50	0.045	-26.90	54.00	0.031	-30.27	81.50	0.014	-37.32
4.75	0.180	-14.89	27.00	0.034	-29.29	54.50	0.038	-28.41	82.00	0.009	-40.88
5.00	0.166	-15.60	27.50	0.024	-32.32	55.00	0.041	-27.84	82.50	0.005	-46.12
5.25	0.176	-15.10	28.00	0.032	-29.83	55.50	0.038	-28.49	83.00	0.001	-57.04
5.50	0.193	-14.29	28.50	0.042	-27.45	56.00	0.030	-30.39	83.50	0.002	-55.23
5.75	0.203	-13.85	29.00	0.042	-27.56	56.50	0.022	-33.31	84.00	0.004	-47.61
6.00	0.200	-13.98	29.50	0.031	-30.08	57.00	0.019	-34.51	84.50	0.006	-44.35
6.25	0.183	-14.75	30.00	0.024	-32.51	57.50	0.025	-31.87	85.00	0.007	-42.60
6.50	0.156	-16.13	30.50	0.032	-29.90	58.00	0.034	-29.27	85.50	0.008	-41.67
6.75	0.126	-17.96	31.00	0.041	-27.78	58.50	0.041	-27.81	86.00	0.009	-41.30
7.00	0.106	-19.53	31.50	0.040	-28.02	59.00	0.042	-27.44	86.50	0.009	-41.39
7.25	0.104	-19.69	32.00	0.030	-30.59	59.50	0.039	-28.07	87.00	0.008	-41.88
7.50	0.117	-18.67	32.50	0.022	-33.05	60.00	0.032	-29.76	87.50	0.007	-42.81
7.75	0.132	-17.61	33.00	0.030	-30.36	60.50	0.024	-32.52	88.00	0.006	-44.24
8.00	0.140	-17.08	33.50	0.039	-28.07	61.00	0.018	-34.90	88.50	0.005	-46.37
8.25	0.138	-17.22	34.00	0.040	-28.06	61.50	0.022	-33.30	89.00	0.003	-49.63
8.50	0.125	-18.04	34.50	0.030	-30.34	62.00	0.030	-30.32	89.50	0.002	-55.50

ASR Registration Search

Registration 1058073

Map Registration

Registration Detail

Reg Number	1058073	Status	Constructed
File Number	A0068232	Constructed	01/01/1969
FAA Study	98-ASW-2458-OE	EMI	No
FAA Issue Date	08/19/1998	NEPA	No

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Communications Purposes

Location (in NAD83 Coordinates)

Lat/Long	30-59-09.0 N 097-37-52.0 W	SOUTH OF INT OF RANCH RDS 3481 & 2484
City, State	YOUNGSPORT , TX	
Center of AM Array		

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
282.2	347.7
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
629.9	334.0

Painting and Lighting Specifications

FAA Chapters 3, 4, 5, 9
Paint and Light in Accordance with FAA Circular Number 70/7460-1G

Owner & Contact Information

FRN Licensee ID

Owner

CENTRAL TEXAS COLLEGE
Attention To: MAX RUDOLPH
P.O. Box 1800
KILLEEN , TX 76540

P: (254)526-1176
E:

Contact

P:
E:

Last Action Status

Status	Constructed	Received	11/10/1998
Purpose	New	Entered	11/12/1998
Mode	Mail In (Manual)		

Related Applications

11/10/1998 A0068232 - New (NE)

Comments

Comments

02/22/1999 CORRECTED LOCATION ADDRESS BASED ON CORRESPONDENCE FROM OWNER.

Automated Letters

None

CLOSE WINDOW

Effective Radiated Power Calculations for DTV

Call letters:	**KNCT-DT**	Date:	**6/16/2008**
Location:	**Belton, TX**		
Channel:	**46A**		
Frequency:	**665 MHz Mid-Band**	**Pilot Freq:**	**662.31**
Antenna:	**Andrew ATW25H3-HTO-46H**		

Transmitter Power Output (TPO):	**8.1 kW avg.**		**9.10 dBk**
Filter Loss:			**0** dB
TPO into Xmsn Line:	**8.1** kW		**9.10** dBk
Transmission Line:			
Loss per 100 ft.:	**0.113 dB Vert**	**0.113 dB Hor**	
Line Length:	**1100 ft. Vert**	**70 ft. Hor**	
Total Line Loss:			**-1.32 dB**
Antenna Input Power:	**6.00 kW**		**7.78 dBk**
Efficiency: **73.7548 %**			
Elevation Antenna Gain -			
Horizontal -			
Hor. Polarization -	*1.00 Gain*		***0.00 dB***
Maximum -			
Hor. Polarization -	25.00 Gain		**13.98 dB**
Azimuthal Antenna Gain -			
Hor. Polarization -	1.00 Gain		**0.00 dB**

Horizontal ERP -		
Horizontal Polarization:	***6.0 kW***	***7.8 dBk***

Maximum ERP -		
Horizontal Polarization:	**150.0 kW**	**21.76 dBk**

Radio Frequency Radiation Human Exposure Calculations

Call letters: **KNCT-DT** Date: **6/16/2008**
City of License: **Belton, TX**
Channel: **46A**

Reference:

FCC Rules Section 73.1307(b) & 73.1310
OET Bulletin No. 65 Edition 97-01, August, 1997
OET Bulletin No. 56

DTV Average Power	**150,000**	**W ERP**
Typical relative field factor in the downward direction: (conservative estimate)	**0.20**	
Antenna Radiation Center Above Ground Level (RCAGL):	**340.4**	**m**

Occupational/Controlled (O/C) Exposure

Highest Calculated Power Density:	**1.73**	**μW/cm²**

Maximum Permissible Exposure (MPE) for this Channel -

Frequency (middle of the band):	**665**	**MHz**
MPE O/C Limit (6 minutes average):	**2.2**	**mW/cm²**
Percentage of MPE O/C Limit:	**0.08**	**%**

General Population/Uncontrolled (GP/U) Exposure

Typical height of a person's head standing at ground level:	**2**	**m**
Distance from head height to antenna radiation center:	**338.4**	**m**
Highest Calculated Power Density:	**1.75**	**μW/cm²**

Maximum Permissible Exposure (MPE) for this Channel -

Frequency (middle of the band):	**665**	**MHz**
MPE GP/U Limit (30 minutes average):	**0.4**	**mW/cm²**
Percentage of MPE GP/U Limit:	**0.39**	**%**

Contour Comparison - Proposed vs. Appendix B			
41 dBu F(50,90) Contours - 3 second US Terrain			
	Proposed	Appendix B	
Bearing (deg)	Facility Distance (km)	Allotted Facility Distance (km)	Difference (km)
0	89.7	90.1	-0.4
1	89.8	90.1	-0.3
2	89.7	89.9	-0.2
3	89.6	89.8	-0.2
4	89.5	89.6	-0.1
5	89.4	89.5	-0.1
6	89.5	89.5	0
7	89.5	89.5	0
8	89.6	89.5	0.1
9	89.6	89.4	0.2
10	89.6	89.4	0.2
11	89.6	89.2	0.4
12	89.6	89	0.6
13	89.5	88.8	0.7
14	89.5	88.6	0.9
15	89.6	88.5	1.1
16	89.7	88.4	1.3
17	89.8	88.3	1.5
18	89.9	88.2	1.7
19	89.8	88.1	1.7
20	89.9	87.9	2
21	90	87.8	2.2
22	90.1	87.6	2.5
23	90.2	87.4	2.8
24	90.3	87.2	3.1
25	90.4	87	3.4
26	90.5	86.9	3.6
27	90.6	86.7	3.9
28	90.7	86.5	4.2
29	90.7	86.2	4.5
30	90.7	85.9	4.8
31	90.7	85.7	5
32	90.8	85.5	5.3
33	90.8	85.3	5.5
34	90.8	85.1	5.7
35	90.9	84.9	6
36	91	84.7	6.3
37	91	84.4	6.6
38	91	84.1	6.9
39	91	83.9	7.1
40	91	83.6	7.4
41	91	83.6	7.4
42	91.1	83.7	7.4

43	91.1	83.8	7.3
44	91.2	83.9	7.3
45	91.1	84	7.1
46	91.1	84	7.1
47	91	84	7
48	90.9	84	6.9
49	90.9	84	6.9
50	90.9	84.1	6.8
51	90.9	84.5	6.4
52	91	84.9	6.1
53	91	85.3	5.7
54	91.1	85.7	5.4
55	91.1	86.1	5
56	91.2	86.5	4.7
57	91.3	87	4.3
58	91.4	87.4	4
59	91.5	87.8	3.7
60	91.6	88.3	3.3
61	91.6	88.7	2.9
62	91.7	89.1	2.6
63	91.7	89.5	2.2
64	91.8	89.9	1.9
65	91.9	90.4	1.5
66	91.9	90.8	1.1
67	92.1	91.3	0.8
68	92.2	91.7	0.5
69	92.2	92.1	0.1
70	92.3	92.5	-0.2
71	92.2	92.7	-0.5
72	92	92.8	-0.8
73	91.8	92.8	-1
74	91.7	92.8	-1.1
75	91.6	93	-1.4
76	91.6	93.3	-1.7
77	91.6	93.5	-1.9
78	91.7	93.8	-2.1
79	91.7	94.1	-2.4
80	91.6	94.2	-2.6
81	91.5	94.2	-2.7
82	91.5	94.2	-2.7
83	91.4	94.2	-2.8
84	91.4	94.3	-2.9
85	91.4	94.3	-2.9
86	91.3	94.3	-3
87	91.3	94.4	-3.1
88	91.3	94.5	-3.2
89	91.3	94.5	-3.2
90	91.2	94.6	-3.4
91	91.2	94.4	-3.2
92	91.1	94.2	-3.1
93	91	94.1	-3.1
94	91	94	-3

95	91	94	-3
96	91.1	93.9	-2.8
97	91.1	93.9	-2.8
98	91.1	93.8	-2.7
99	91.2	93.8	-2.6
100	91.2	93.8	-2.6
101	91.4	93.7	-2.3
102	91.5	93.6	-2.1
103	91.5	93.3	-1.8
104	91.4	93.1	-1.7
105	91.4	92.8	-1.4
106	91.3	92.5	-1.2
107	91.3	92.3	-1
108	91.3	92	-0.7
109	91.3	91.7	-0.4
110	91.2	91.4	-0.2
111	91.1	91	0.1
112	91.1	90.7	0.4
113	91	90.3	0.7
114	91	89.9	1.1
115	90.9	89.5	1.4
116	90.9	89.1	1.8
117	90.9	88.7	2.2
118	90.9	88.4	2.5
119	90.9	88	2.9
120	90.8	87.5	3.3
121	90.8	87.2	3.6
122	90.7	86.8	3.9
123	90.7	86.4	4.3
124	90.6	86	4.6
125	90.6	85.6	5
126	90.5	85.2	5.3
127	90.5	84.8	5.7
128	90.4	84.4	6
129	90.3	83.9	6.4
130	90.3	83.5	6.8
131	90.3	83.4	6.9
132	90.3	83.4	6.9
133	90.3	83.3	7
134	90.3	83.2	7.1
135	90.3	83.1	7.2
136	90.2	83.1	7.1
137	90.2	83	7.2
138	90.2	82.9	7.3
139	90.1	82.7	7.4
140	90.1	82.6	7.5
141	90.1	82.9	7.2
142	90.1	83.2	6.9
143	90.1	83.5	6.6
144	90	83.7	6.3
145	90	83.9	6.1
146	89.9	84.2	5.7

147	89.9	84.4	5.5
148	89.8	84.5	5.3
149	89.7	84.7	5
150	89.6	84.9	4.7
151	89.6	85.2	4.4
152	89.7	85.5	4.2
153	89.7	85.8	3.9
154	89.7	86.2	3.5
155	89.8	86.5	3.3
156	89.8	86.8	3
157	89.9	87.1	2.8
158	89.9	87.4	2.5
159	89.9	87.6	2.3
160	89.9	87.9	2
161	89.9	88.1	1.8
162	89.9	88.3	1.6
163	89.9	88.4	1.5
164	89.8	88.5	1.3
165	89.7	88.6	1.1
166	89.6	88.7	0.9
167	89.6	88.9	0.7
168	89.6	89.1	0.5
169	89.7	89.3	0.4
170	89.7	89.5	0.2
171	89.7	89.5	0.2
172	89.7	89.6	0.1
173	89.7	89.7	0
174	89.7	89.7	0
175	89.7	89.7	0
176	89.6	89.7	-0.1
177	89.5	89.6	-0.1
178	89.4	89.6	-0.2
179	89.3	89.6	-0.3
180	89.3	89.6	-0.3
181	89.3	89.6	-0.3
182	89.3	89.5	-0.2
183	89.2	89.4	-0.2
184	89.1	89.2	-0.1
185	88.9	88.9	0
186	88.7	88.7	0
187	88.7	88.6	0.1
188	88.6	88.5	0.1
189	88.6	88.4	0.2
190	88.5	88.3	0.2
191	88.5	88.1	0.4
192	88.4	87.8	0.6
193	88.3	87.6	0.7
194	88.2	87.3	0.9
195	88.2	87.1	1.1
196	88.1	86.8	1.3
197	87.9	86.4	1.5
198	87.8	86.1	1.7

199	87.7	85.8	1.9
200	87.6	85.5	2.1
201	87.5	85.2	2.3
202	87.4	84.9	2.5
203	87.4	84.5	2.9
204	87.3	84.1	3.2
205	87.2	83.8	3.4
206	87.1	83.4	3.7
207	86.9	82.9	4
208	86.7	82.4	4.3
209	86.6	82	4.6
210	86.5	81.6	4.9
211	86.4	81.2	5.2
212	86.4	81	5.4
213	86.4	80.7	5.7
214	86.3	80.4	5.9
215	86.3	80.1	6.2
216	86.2	79.7	6.5
217	86.1	79.4	6.7
218	86.1	79.1	7
219	86.1	78.8	7.3
220	86.1	78.5	7.6
221	86	78.5	7.5
222	86	78.5	7.5
223	86	78.6	7.4
224	85.9	78.5	7.4
225	85.9	78.5	7.4
226	85.7	78.5	7.2
227	85.7	78.5	7.2
228	85.8	78.6	7.2
229	86.1	79	7.1
230	86.2	79.1	7.1
231	86.1	79.5	6.6
232	86.2	80	6.2
233	86.6	80.8	5.8
234	86.9	81.5	5.4
235	87	81.9	5.1
236	87.3	82.6	4.7
237	87.8	83.5	4.3
238	88.2	84.2	4
239	88.4	84.7	3.7
240	88.5	85.2	3.3
241	88.9	86	2.9
242	89.3	86.8	2.5
243	89.6	87.5	2.1
244	89.7	88	1.7
245	89.8	88.4	1.4
246	89.9	88.8	1.1
247	90	89.3	0.7
248	90.1	89.7	0.4
249	90.2	90.1	0.1
250	90.2	90.4	-0.2

251	90.1	90.6	-0.5
252	90.1	90.8	-0.7
253	90	90.9	-0.9
254	90.1	91.2	-1.1
255	90.1	91.5	-1.4
256	90.1	91.7	-1.6
257	90.1	91.9	-1.8
258	90	92.1	-2.1
259	89.9	92.2	-2.3
260	89.9	92.3	-2.4
261	89.9	92.4	-2.5
262	89.9	92.5	-2.6
263	89.9	92.6	-2.7
264	89.8	92.6	-2.8
265	89.7	92.5	-2.8
266	89.6	92.5	-2.9
267	89.5	92.5	-3
268	89.4	92.5	-3.1
269	89.4	92.5	-3.1
270	89.3	92.5	-3.2
271	89.2	92.4	-3.2
272	89.1	92.2	-3.1
273	89.1	92.1	-3
274	89	92	-3
275	89.1	91.9	-2.8
276	89.1	91.9	-2.8
277	89.1	91.8	-2.7
278	89.2	91.8	-2.6
279	89.2	91.7	-2.5
280	89.2	91.7	-2.5
281	89.2	91.4	-2.2
282	89.2	91.3	-2.1
283	89.2	91.1	-1.9
284	89.3	90.9	-1.6
285	89.2	90.6	-1.4
286	89	90.2	-1.2
287	88.9	89.9	-1
288	88.8	89.5	-0.7
289	88.8	89.2	-0.4
290	88.8	89	-0.2
291	88.8	88.7	0.1
292	88.8	88.4	0.4
293	88.7	88	0.7
294	88.6	87.5	1.1
295	88.4	86.9	1.5
296	88.3	86.5	1.8
297	88.3	86.1	2.2
298	88.1	85.6	2.5
299	88.1	85.2	2.9
300	88.1	84.8	3.3
301	88.1	84.4	3.7
302	88	84	4

303	88	83.6	4.4
304	87.9	83.2	4.7
305	88	82.9	5.1
306	88.1	82.6	5.5
307	88.2	82.3	5.9
308	88.3	82.1	6.2
309	88.4	81.8	6.6
310	88.4	81.4	7
311	88.5	81.5	7
312	88.6	81.5	7.1
313	88.6	81.5	7.1
314	88.7	81.5	7.2
315	88.8	81.5	7.3
316	88.8	81.5	7.3
317	88.8	81.5	7.3
318	88.8	81.4	7.4
319	88.9	81.4	7.5
320	89	81.4	7.6
321	89	81.8	7.2
322	89	82.1	6.9
323	89.1	82.4	6.7
324	89.2	82.8	6.4
325	89.2	83.1	6.1
326	89.3	83.5	5.8
327	89.4	83.8	5.6
328	89.4	84.1	5.3
329	89.3	84.3	5
330	89.3	84.5	4.8
331	89.2	84.8	4.4
332	89.2	85	4.2
333	89.2	85.3	3.9
334	89.1	85.5	3.6
335	89	85.7	3.3
336	88.9	85.9	3
337	88.8	86	2.8
338	88.8	86.3	2.5
339	88.8	86.5	2.3
340	88.8	86.8	2
341	88.9	87	1.9
342	89	87.4	1.6
343	89.1	87.6	1.5
344	89.1	87.8	1.3
345	89.1	88	1.1
346	89.1	88.2	0.9
347	89.1	88.3	0.8
348	89.1	88.5	0.6
349	89.1	88.7	0.4
350	89.3	89	0.3
351	89.2	89.1	0.1
352	89.2	89.1	0.1
353	89.2	89.1	0.1
354	89.2	89.2	0

355	89.2	89.3	-0.1
356	89.3	89.4	-0.1
357	89.4	89.6	-0.2
358	89.6	89.8	-0.2
359	89.7	90	-0.3
Note: A Difference > 8 km would exceed the 5 mile			
	Limitation.		

```
Census data selected 2000

 Post Transition Data Base Selected
/space/software/cdbs/tvdb.sff_B
              TV INTERFERENCE and SPACING ANALYSIS PROGRAM


 Date: 06-16-2008    Time: 16:12:36

 Record Selected for Analysis

 KNCT-DT  USERRECORD-01               BELTON               TX US
 Channel 46 ERP 150.   kW   HAAT  393. m  RCAMSL 00623 m
 Latitude 030-59-08  Longitude 0097-37-51
 Status APP       Zone 2    Border
 Last update           Cutoff date           Docket
 Comments
 Applicant



 Cell Size for Service Analysis 2.0 km/side

 Distance Increments for Longley-Rice Analysis 1.00 km


 Facility meets maximum height/power limits

    Azimuth     ERP        HAAT   41.0 dBu F(50,90)
     (Deg)      (kW)       (m)        (km)
      0.0      150.000     396.3       90.0
     45.0      150.000     419.7       91.3
     90.0      150.000     422.0       91.4
    135.0      150.000     404.7       90.5
    180.0      150.000     387.3       89.4
    225.0      150.000     344.9       85.8
    270.0      150.000     387.7       89.5
    315.0      150.000     379.4       88.9



                   Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

                   Class A Evaluation Complete


                   SPACING VIOLATION FOUND BETWEEN STATION

 KNCT-DT  46 BELTON               TX USERRECORD01
```

and station

SHORT TO: KNCT 46 BELTON TX BDTV 1506
30 -59-08 097 -37-51
Req. separation 223.7 Actual separation 0.0 Short 223.7 km

SHORT TO: KTAQ 46 GREENVILLE TX BDTV 1550
32 -32-36 096 -57-32
Req. separation 223.7 Actual separation 184.1 Short 39.6 km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quite zone

Proposed facility OK toward Table Mountian

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

****

Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN
46	KNCT-DT	BELTON TX	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
45	KDTX-TV	DALLAS TX	184.4	LIC	BDTV	-1528
46	KTAQ	GREENVILLE TX	184.4	LIC	BDTV	-1550

%%%

Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
45	KDTX-TV	DALLAS TX	BDTV	-1528

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
44	KWKT	WACO TX	140.9	LIC	BDTV	-1618
45	KOTV	TULSA OK	404.1	LIC	BDTV	-1259
45	KXLN-TV	ROSENBERG TX	358.9	LIC	BDTV	-1594
46	KTAQ	GREENVILLE TX	0.0	LIC	BDTV	-1550
46	KNCT-DT	BELTON TX	184.4	APP	USERRECORD	-01

Proposal causes no interference

##

Analysis of Interference to Affected Station 2

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
46	KTAQ	GREENVILLE TX	BDTV	-1550

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
45	KDTX-TV	DALLAS TX	0.0	LIC	BDTV	-1528
46	KOCM	NORMAN OK	343.0	LIC	BDTV	-1241
46	KNCT-DT	BELTON TX	184.4	APP	USERRECORD	-01

Total scenarios = 1

Result key: 1
Scenario 1 Affected station 2
Before Analysis

Results for: 46A TX GREENVILLE BDTV 1550 LIC
HAAT 496.0 m, ATV ERP 600.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	5318453	31231.2
not affected by terrain losses	5316544	31034.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	58	4.0
lost to ATV IX only	58	4.0
lost to all IX	58	4.0

Potential Interfering Stations Included in above Scenario 1

46A OK NORMAN BDTV 1241 LIC

After Analysis

Results for: 46A TX GREENVILLE BDTV 1550 LIC
HAAT 496.0 m, ATV ERP 600.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	5318453	31231.2
not affected by terrain losses	5316544	31034.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	3095	449.8
lost to ATV IX only	3095	449.8
lost to all IX	3095	449.8

```
 Potential Interfering Stations Included in above Scenario     1

46A OK NORMAN               BDTV      1241         LIC
46A TX BELTON               USERRECORD01           APP

Percent new IX =    0.0571%

Worst case new IX    0.0571% Scenario      1

################################################################################


     Analysis of Interference to Affected Station   3


Analysis of current record
Channel     Call           City/State        Application Ref. No.
   46      KNCT-DT    BELTON TX                USERRECORD-01

     Stations Potentially Affecting This Station

Chan   Call      City/State           Dist(km) Status  Application Ref. No.
 45   KDTX-TV  DALLAS TX               184.4  LIC    BDTV      -1528
 46   KTAQ     GREENVILLE TX           184.4  LIC    BDTV      -1550

 Total scenarios =   1


Result key:        2
Scenario        1  Affected station        3
Before Analysis

Results for: 46A TX BELTON               USERRECORD01           APP
   HAAT  393.0 m, ATV ERP  150.0 kW
                                POPULATION   AREA (sq km)
   within Noise Limited Contour     1555420      24694.4
   not affected by terrain losses   1524672      24097.0
   lost to NTSC IX                        0          0.0
   lost to additional IX by ATV       48689        670.1
   lost to ATV IX only                48689        670.1
   lost to all IX                     48689        670.1

 Potential Interfering Stations Included in above Scenario     1

46A TX GREENVILLE           BDTV      1550         LIC

################################################################################

FINISHED FINISHED FINISHED FINISHED FINISHED FINISHED
```

of the previous use of the same, whether by license or otherwise, and request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

Typed or Printed Name of Person Signing	Typed or Printed Title of Person Signing
Signature	Date

Section VII Preparer's Certification
I certify that I have prepared Section VII (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name MATTHEW A. SANDERFORD, JR., P.E.		Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER
Signature		Date 06/17/2008
Mailing Address P.O. BOX 485 6100 I-35W		
City ALVARADO	State or Country (if foreign address) TX	Zip Code 76009-0485
Telephone Number (include area code) 8177835566	E-Mail Address (if available) TVCOWBOY@MARSAND.COM	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

SECTION VII - DTV Engineering

Complete Questions 1-5, and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.

Pre-Transition Certification Checklist: An application concerning a pre-transition channel must complete questions 1(a)-(c), and 2-5. A correct answer of "Yes" to all of the questions will ensure an expeditious grant of a construction permit application to change pre-transition facilities. However, if the proposed facility is located within the Canadian or Mexican borders, coordination of the proposal under the appropriate treaties may be required prior to grant of the application. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.

Post-Transition Expedited Processing. An application concerning a post-transition channel must complete questions 1(a), (d)-(e), and 2-5. A station applying for a construction permit to build its post-transition channel will receive expedited processing if its application (1) does not seek to expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622(i) ("new DTV Table Appendix B"); (2) specifies facilities that match or closely approximate those defined in the new DTV Table Appendix B facilities; and (3) is filed within 45 days of the effective date of Section 73.616 of the rules adopted in the Report and Order in the Third DTV Periodic Review proceeding, MB Docket No. 07-91.

1. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:

(a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622.	(●) Yes ( ) No
(b) It will operate a pre-transition facility from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622.	( ) Yes ( ) No
(c) It will operate a pre-transition facility with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT	( ) Yes ( ) No

	for this station as established in 47 C.F.R. Section 73.622. (d) It will operate at post-transition facilities that do not expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622 (i) ("new DTV Table Appendix B"). (e) It will operate at post-transition facilities that match or reduce by no more than five percent with respect to predicted population from those defined in the new DTV Table Appendix B.	○ Yes ◉ No ○ N/A ◉ Yes ○ No ○ N/A
2.	The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. Applicant must **submit the Exhibit** called for in Item 13.	◉ Yes ○ No
3.	Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community.	◉ Yes ○ No
4.	The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable.	◉ Yes ○ No
5.	The antenna structure to be used by this facility has been registered by the Commission and will not require registration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7.	◉ Yes ○ No

SECTION VII - DTV Engineering

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX		
1.	Channel Number: DTV 46 Analog TV, if any 46	
2.	Zone: ○ I ◉ II ○ III	
3.	Antenna Location Coordinates: (NAD 27) Latitude: Degrees 30 Minutes 59 Seconds 8.4 ◉ North ○ South Longitude: Degrees 97 Minutes 37 Seconds 50.1 ◉ West ○ East	
4.	Antenna Structure Registration Number: 1058073 ☐ Not Applicable ☐ Notification filed with FAA	
5.	Antenna Location Site Elevation Above Mean Sea Level:	282.2 meters
6.	Overall Tower Height Above Ground Level:	347.7 meters
7.	Height of Radiation Center Above Ground Level:	340.4 meters
8	Height of Radiation Center Above Average Terrain (HAAT):	392 meters
9.	Maximum Effective Radiated Power (average power):	150 kW

10. Antenna Specifications:

a. Manufacturer AND Model ATW25H3-HTO-46H

b. Electrical Beam Tilt:
0.75 degrees ☐ Not Applicable

c. Mechanical Beam Tilt:
degrees toward azimuth
degrees True ☑ Not Applicable
Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). [Exhibit 33]

d. Polarization:
◉ Horizontal ○ Circular ○ Elliptical

e. Directional Antenna Relative Field Values: ☑ Not applicable (Nondirectional)

[For a composite directional (not off-the-shelf) antenna, press the following button to fill in the relative field values subform.]
[Relative Field Values]

10e. Directional Antenna Relative Field Values

[Fill in this subform for a composite directional (not off-the-shelf) antenna, only.]

e. Directional Antenna Relative Field Values:

Rotation (Degrees): ☐ No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0		10		20		30		40		50	
60		70		80		90		100		110	
120		130		140		150		160		170	
180		190		200		210		220		230	
240		250		260		270		280		290	
300		310		320		330		340		350	
Additional Azimuths											

Relative Field Polar Plot

If a directional antenna is proposed, the requirements of 47 C.F.R. Sections 73.625(c) must be satisfied. **Exhibit required.** [Exhibit 34]

11. Does the proposed facility satisfy the pre-transition interference protection provisions of 47 C.F.R. Section 73.623(a) (Applicable only if **Certification Checklist** Items 1(a), (b), or (c) are answered "No.") and/or the post-transition interference protection provisions of 47 C.F.R. Section 73.616? ◉ Yes ○ No

[Exhibit 35]

If "No," attach as an Exhibit justification therefor, including a summary of any related previously granted waivers.

12. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefor. (Applicable only if **Certification Checklist** item 3 [Exhibit 36]

	is answered "No.")
13.	**Environmental Protection Act. Submit in an Exhibit** the following: [Exhibit 37] a. If **Certification Checklist** Item 2 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site. By checking "Yes" to **Certification Checklist** Item 2, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines. If **Certification Checklist** Item 2 is answered "No," an Environmental Assessment as required by 47 C.F.R Section 1.1311.
PREPARERS CERTIFICATION ON PAGE 8 MUST BE COMPLETED AND SIGNED.	

Exhibits

Exhibit 37
Description: ENGINEERING STATEMENT

Attachment 37